

# **RTI Prototype Release 0.3**

Presented to

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# Refer to the AMG 7 RTI presentation

- Objectives of the RTI effort
- The Management Team
- Key factors driving the RTI release schedule



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# Protodefederation support

- 0.3 scheduled availability is 1 May 96  
For FTP retrieval — talk to Tom Stark for details  
<mailto: tstark@msis.dmsso.mil>
- Please use the SAIC Support Group at DMSO
- Please use the RTI help mailing list to discuss issues  
and implementation details and/or problems  
To use: <mailto:rti\_help@msis.dmsso.mil> after  
subscribing via <mailto: listserv@msis.dmsso.mil>



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# **RTI prototype, Release 0.3**

## **Major changes from Release 0.2**

- Adds Time Management
- Adds minimum rate variant of best effort transportation
- Throughput performance improved (~3X)



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# Programming Models

- We asked: What is your programming model?
  - Process/thread structure for your application
- POSIX model vs. platform specific model?
- We heard:
  - We are/aren't planning POSIX compliance
    - We wanted to know if a POSIX process/thread model was an acceptable model
  - Single process/thread
  - Multiple processes/multiple threads
  - Want to use CORBA, or another model to explore distributing simulation objects across machines
- Summary:
  - Eventually the RTI will need to be flexible in its architecture to support multiple programming models



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# Details of the 0.3 release

- Time Management
- Test Federate Improvements
- Communication Changes
- Throughput Improvements

# Time Management

- RTI 0.3 supports First-In-First-Out (FIFO – previously known as receive) and Timestamp (TS) ordering
- Lookahead is specified on a per-federate basis
- Support services have been added to the RTI Ambassador interface to control time management operations
  - Set TS Generation (True or False) - Informs the RTI that the federation will/will not produce TS events and its local time should be/should not be considered when advancing other federates that receive TS events
  - Set TS Reception (True or False) - Informs the RTI that the federate should/should not have the advance of its time controlled in a way that facilitates proper TS event reception



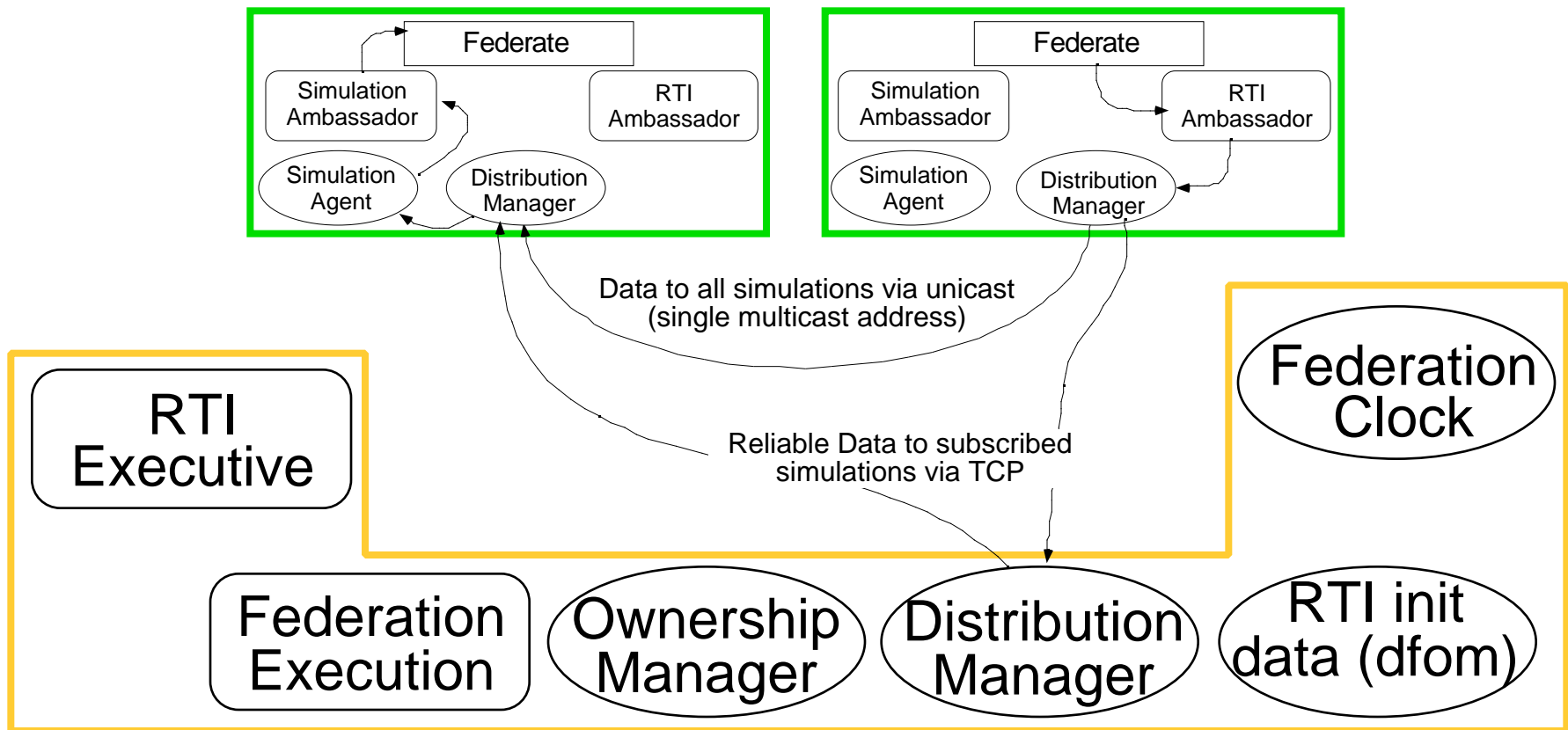
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# Time Management Services in Release 0.3

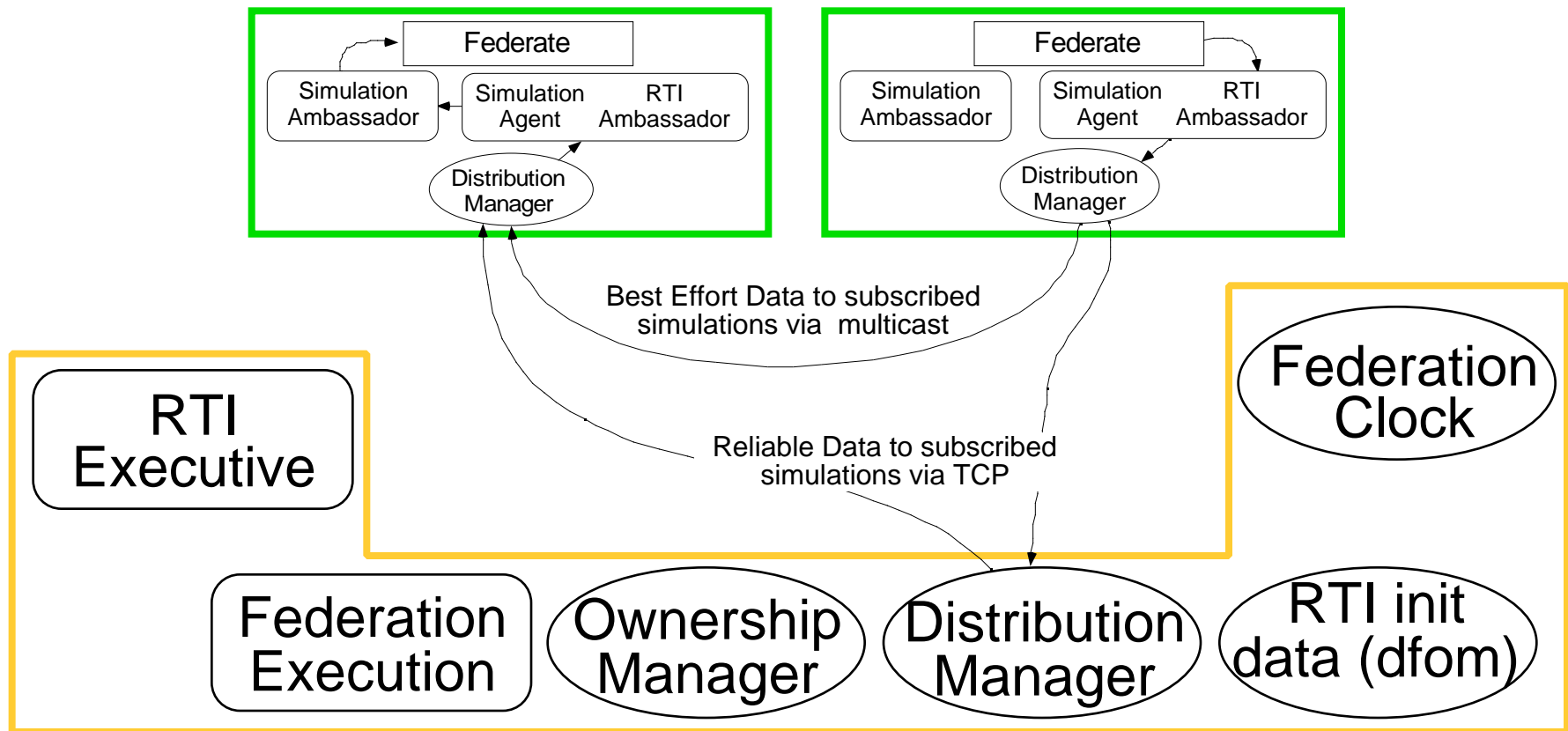
- Initialize Federate Time and Rate
- Time Advance Request
- Next Event Request
- Time Advance Grant†
- Request Federate Time
- Request Federation Rate
- Request Lookahead



# Update Attribute Value in Release 0.2



# Update Attribute Value in Release 0.3



# Test Federate Changes

- Updated to call new services
- Modified to use changed parameters for existing services
- Round trip timing test extended to include
  - One sender to one receiver
  - One sender to multiple receivers



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# Communication Changes

- Added minimum rate
  - A data consistency mechanism
- Ordering and Transport specification
  - RID specified defaults
  - Set Order Type
  - Set Transport Type
  - Transport parameter to Update Attribute Value etc. was removed
- See the IDL changes document for details in the interface



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# Throughput improvements

- Required some IDL changes
- On average, ~3X over 0.2
  - Your mileage may vary
- Initial improvements, more for 0.4